



# California Morbidity

## RECOMMENDED IMMUNIZATION FOR SEWAGE WORKERS

The Division of Communicable Disease Control previously published recommendations for preventing illness in sewage workers (California Morbidity #35/36, September 4, 1992). Questions continue to be received, not only for the diseases discussed last time but also because of concerns about HIV and hepatitis A and B.

It should be emphasized that there are NO state immunization requirements mandated for sewage workers. Any requirements that exist are made at the local level by employers. According to Cal/OSHA officials, sewage workers are not covered by the "Cal/OSHA Bloodborne Pathogens Standard" unless they regularly work directly on sewerage lines within health care facilities or before those lines join other (e.g., municipal) sewerage lines.

This is a difficult area, where the very small risk of disease (from pooled human sewage) must be balanced against the very small risk of adverse effects (and cost) of immunization. Though published data do not exist for all of the disease-specific recommendations outlined below, California Department of Health Services recommendations, which incorporate the USPHS Advisory Committee on Immunization Practices (ACIP) recommendations where available, are as follows:

1. Frequent, routine handwashing is the most important safeguard in preventing infection by agents present in sewage.
2. Protective clothing (i.e., work clothes, coveralls, boots, and--when appropriate, gloves and plastic face shields) is recommended. Such work clothes should not be worn home or outside the immediate work environment.
3. Immunization recommendations can be categorized as follows:
  - a. Recommended
    - ? **Tetanus-diphtheria (Td)**....All adults, and especially sewage workers, should be up-to-date on Td immunization. For those who have completed the basic series of three immunizations, a booster should be given every ten years.
    - ? **No other immunizations** are routinely recommended at the present.
  - b. Not Routinely Recommended
    - ? **Poliomyelitis** - Sewage workers are at very slight risk of vaccine polio virus exposure but at virtually no risk of wild polio virus exposure. No cases of occupationally acquired paralytic poliomyelitis in U.S. sewage workers have been documented since polio vaccine came into widespread usage.
    - ? **Typhoid Fever** - The risk of this disease for sewage workers in California is exceedingly small. Only one case has ever been reported in a California sewage worker and this was in an individual who had received at least one dose of typhoid vaccine nine months previously.
    - ? **Immune globulin (IG) and Hepatitis A Vaccine** - Routine hepatitis A immunoprophylaxis is not recommended due to lack of evidence of significant occupational risk for sewage workers in this country (MMWR 1996; 45 No. RR-15).
    - ? **Hepatitis B Vaccine** - While blood and other body fluids (e.g., menstrual discharges, etc.) enter the sewage stream, hepatitis B virus is present only in very dilute concentrations. No cases of hepatitis B have been linked to sewage exposure in the U.S. Moreover, since hepatitis B is not transmitted by the fecal-oral route, there is little risk from municipal sewage.
    - ? **Cholera** - The risk of cholera for sewage workers is extremely remote. Only a few cases of imported cholera are reported each year in California and there has been no secondary transmission. *Vibrio cholerae* concentrations in California sewage are so dilute as to probably be non-infectious. (Whereas  $10^2$  *Shigella* are needed to cause disease, as many as  $10^6$  to  $10^8$  *V. cholerae* are needed.) Even if cholera did result, specific treatment is readily available.

Finally, a word about **HIV** and the risk of **AIDS** from sewage. The remarks made above about hepatitis B, and its extreme dilution in sewage, apply to HIV as well - except that the level of HIV in sewage would be even several orders of magnitude less than that of hepatitis B. Moreover, like hepatitis B, HIV is not transmitted by the fecal-oral route. Thus, the risk of hepatitis B from sewage is virtually non-existent and the risk of HIV transmission from sewage is even less.

*Reported by: Immunization Branch, Division of Communicable Disease Control, California Department of Health Services.*